

Title (en)
Integrated semiconductor light-emitting device and method for manufacturing same

Title (de)
Integrierte Licht emittierende Halbleitervorrichtung und deren Herstellungsverfahren

Title (fr)
Dispositif semiconducteur intégré émetteur de lumière et son procédé de fabrication

Publication
EP 1557917 A1 20050727 (EN)

Application
EP 05001223 A 20050121

Priority
JP 2004016023 A 20040123

Abstract (en)
An integrated semiconductor light-emitting device suitable for being mounted on a pickup is provided. The integrated semiconductor light-emitting device (LDA) has a first laser part (LD1) stacked on a semiconductor substrate (SUB1) and a projection-shaped second laser part (LD2) formed by stack in thin-film-layer form. The second laser part is fitted into a trench (R) formed adjacent to the first laser part in the semiconductor substrate. At least the first and second laser parts and the trench are bonded together through a metal bonding layer (CNT). An emission spot (A) of the first laser part and an emission spot (B) of the second laser part are located away in approximately the same horizontal direction (x) perpendicular to the direction (y) of the stack of the first and second laser parts. <IMAGE>

IPC 1-7
H01S 5/40

IPC 8 full level
G11B 7/125 (2006.01); **H01S 5/22** (2006.01); **H01S 5/323** (2006.01); **H01S 5/343** (2006.01); **H01S 5/40** (2006.01); **H01S 5/02** (2006.01)

CPC (source: EP US)
H01S 5/0237 (2021.01 - EP US); **H01S 5/4031** (2013.01 - EP US); **H01S 5/0202** (2013.01 - EP US); **H01S 5/0217** (2013.01 - EP US); **H01S 5/0234** (2021.01 - EP US); **H01S 5/32325** (2013.01 - EP US); **H01S 5/32341** (2013.01 - EP US); **H01S 5/405** (2013.01 - EP US); **H01S 5/4087** (2013.01 - EP US)

Citation (search report)
• [Y] JP 2002176229 A 20020621 - MITSUBISHI ELECTRIC CORP
• [Y] US 2002097662 A1 20020725 - FUJII YOSHIHISA [JP]
• [A] US 5086431 A 19920204 - HARDY JR ARTHUR H [US], et al
• [A] US 6282220 B1 20010828 - FLOYD PHILIP D [US]
• [PY] EP 1434321 A1 20040630 - PIONEER CORP [JP]
• [X] PATENT ABSTRACTS OF JAPAN vol. 2000, no. 12 3 January 2001 (2001-01-03)

Cited by
WO2015181005A1

Designated contracting state (EPC)
DE FR GB

DOCDB simple family (publication)
EP 1557917 A1 20050727; CN 1645695 A 20050727; JP 2005209950 A 20050804; JP 4634047 B2 20110216; US 2005175053 A1 20050811; US 7333525 B2 20080219

DOCDB simple family (application)
EP 05001223 A 20050121; CN 200510002411 A 20050120; JP 2004016023 A 20040123; US 3857605 A 20050121